

Small Signal Zener Diode

General Description

These diodes small signal Zener diodes, fabricated in planar technology. Miniature surface mount package is excellent for hand-held and portable applications where is space is limited.



SOD-323

Features and Benefits

- Silicon epitaxial planar diode
- Low Zener impedance and low leakage current
- Standard Zener voltage tolerance is 4.3%.
- Full lead (Pb)-free device and RoHS compliant device
- Available in "Green" device



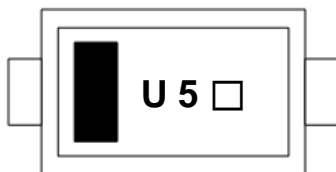
Applications

- Voltage regulator

Ordering Information

| Part Number | Marking Code | Package | Packaging |
|-------------|--------------|---------|-------------|
| SDZ2V7D | U5 □ | SOD-323 | Tape & Reel |

Marking Information

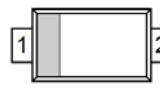
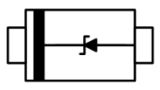


U 5 = Specific Device Code

□ = Year & Week Code Marking

■ = Color band denote cathode

Pinning Information

| Pin | Description | Simplified Outline | Graphic Symbol |
|-----|-------------|--|---|
| 1 | Cathode |  |  |
| 2 | Anode | | |

Absolute Maximum Ratings ($T_{amb}=25^{\circ}\text{C}$, Unless otherwise specified)

| Characteristic | Symbol | Ratings | Unit |
|---------------------------------|-----------|---|--------------------|
| Power dissipation ¹⁾ | P_D | 200 | mW |
| Operating junction temperature | T_J | 150 | $^{\circ}\text{C}$ |
| Storage temperature range | T_{stg} | -55 $^{\circ}\text{C}$ to +150 $^{\circ}\text{C}$ | $^{\circ}\text{C}$ |

¹⁾ Device mounted on FR-4 board with recommended pad layout.

Thermal Characteristics ($T_{amb}=25^{\circ}\text{C}$, Unless otherwise specified)

| Characteristic | Symbol | Ratings | Unit |
|---|---------------|---------|-----------------------------|
| Thermal resistance, junction to ambient ¹⁾ | $R_{th(j-a)}$ | 625 | $^{\circ}\text{C}/\text{W}$ |

¹⁾ Device mounted on FR-4 board with recommended pad layout.

Electrical Characteristics ($T_{amb}=25^{\circ}\text{C}$, Unless otherwise specified)

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|-------------------------|----------|---------------------|------|------|------|---------------|
| Zener voltage | V_Z | $I_Z=5\text{mA}$ | 2.58 | - | 2.82 | V |
| Dynamic impedance | Z_{ZT} | $I_Z=5\text{mA}$ | - | - | 100 | Ω |
| KNEE dynamic impedance | Z_{ZK} | $I_Z=0.25\text{mA}$ | - | - | 1900 | Ω |
| Reverse leakage current | I_R | $V_R=1\text{V}$ | - | - | 75 | μA |

Rating and Characteristic Curves

Fig. 1) Typical Zener Characteristics

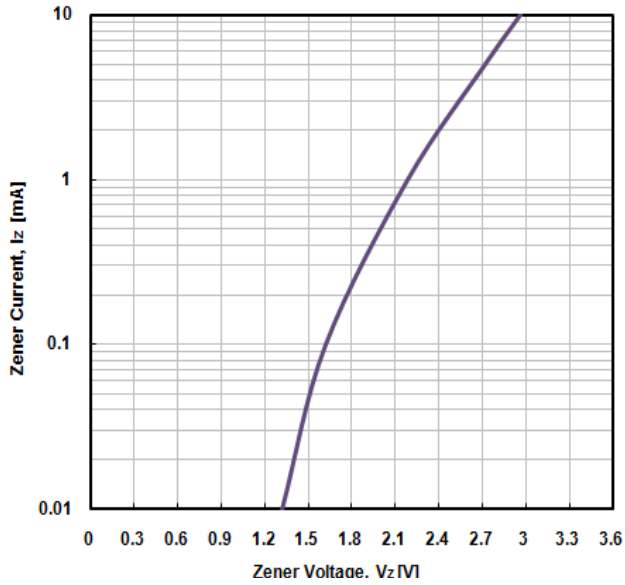


Fig. 2) Zener voltage vs. Ambient Temperature

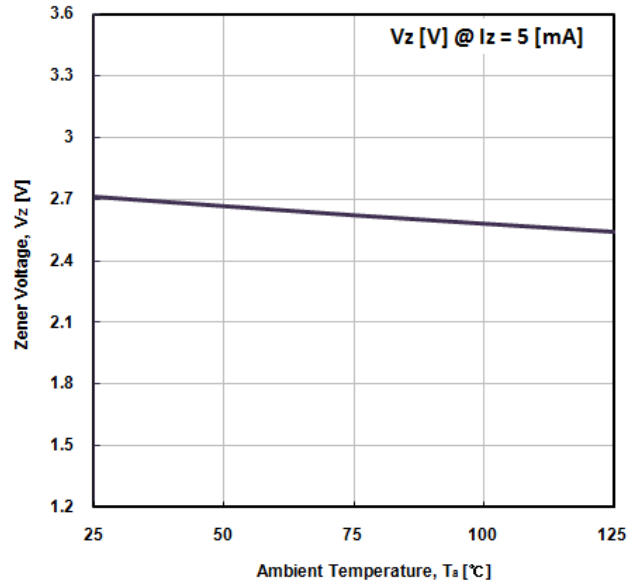


Fig. 3) Typical Capacitance Characteristics

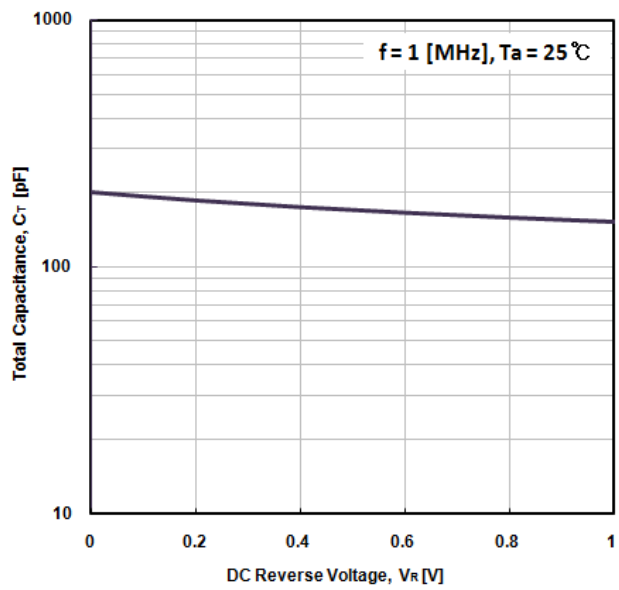
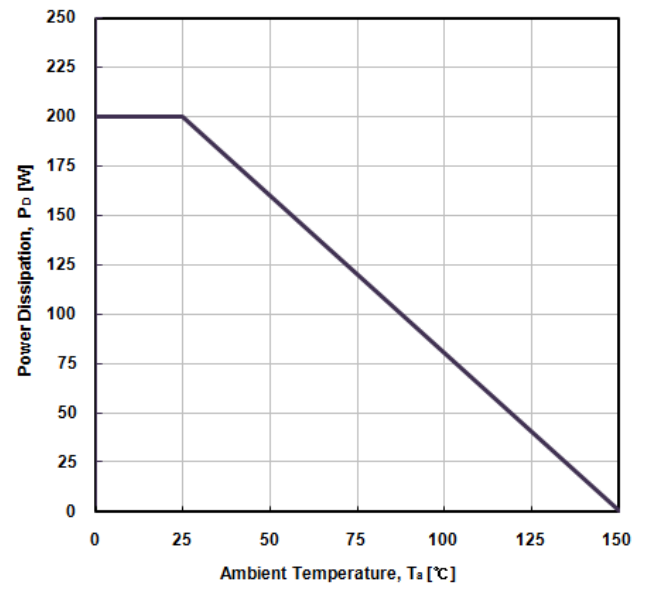
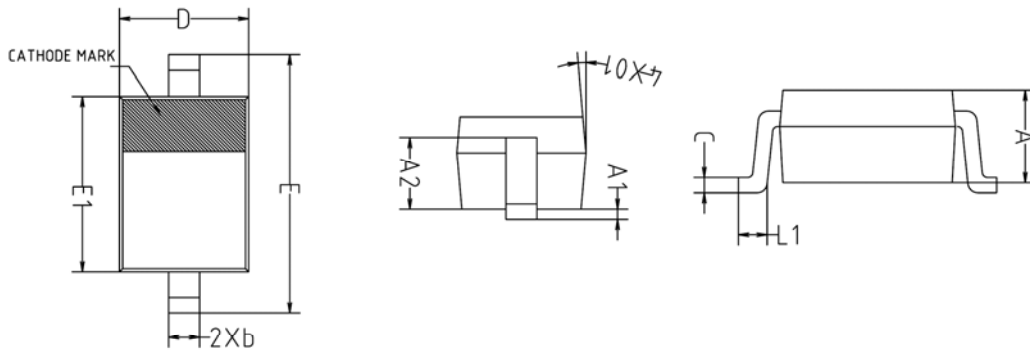


Fig. 4) Power Dissipation vs. Ambient Temperature

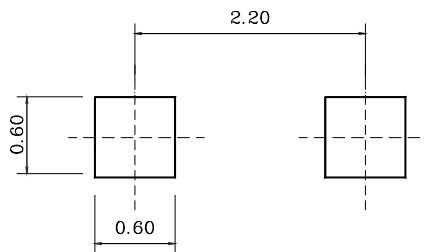


Package Outline Dimensions



| SYMBOL | MILLIMETERS | | | NOTE |
|--------|-------------|---------|---------|------|
| | MINIMUM | NOMINAL | MAXIMUM | |
| A | 0.850 | - | 0.950 | |
| A1 | 0.000 | - | 0.100 | |
| A2 | 0.650 | 0.700 | 0.750 | |
| b | 0.250 | 0.300 | 0.350 | |
| c | 0.110 | 0.150 | 0.190 | |
| D | 1.200 | 1.250 | 1.300 | |
| E | 2.400 | 2.500 | 2.600 | |
| E1 | 1.650 | 1.700 | 1.750 | |
| L1 | 0.200 | - | 0.300 | |
| ∅2 | 5° REF | | | |

※ Recommend PCB solder land (Unit : mm)



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